

U.S. Patent Application Serial No. **10/069,976**  
Amendment dated January 21, 2004  
Reply to OA of **October 24, 2003**

### **REMARKS**

Claims 1-19 are in the application wherein claims 6 to 13 have been withdrawn from consideration by the Examiner as being drawn to a non-elected invention and claims 1 to 5 and 14 to 19 are rejected under 35 U.S.C. §112, second paragraph, on grounds of indefiniteness. Claims 1 to 3, 5 and 14 to 19 are also rejected on prior art under 35 U.S.C. §102(b), with claims 1, 3, 5, 14 and 16 to 19 being rejected as anticipated by **Hiraoka, et al.** (JP01-317679); claims 1 to 3, 5, 14, 15 and 17 to 19 being rejected as anticipated by **Toyo Kogyo Co.** (JP49-44857); claim 1 being rejected as anticipated alternatively by **Kaku, et al.** (U.S. Patent No. 4,145,900) or **Olsson, et al.** (U.S. Patent No. 4,576,875); and claims 1 and 2 being rejected as anticipated by **Soell, et al.** (U.S. Patent No. 6,050,323). The recognition by the Examiner of the existence of allowable subject matter in claim 4 is hereby acknowledged.

The several rejections of the claims and comments by the Examiner have been considered and the claims have been amended in order to more clearly define Applicants' invention to overcome the rejection grounded on indefiniteness under 35 U.S.C. §112, second paragraph, and to the several rejections under 35 U.S.C. §102(b) grounded on anticipation by the cited references. Specifically, the claims, as amended, are particularly directed to a metal member to be cast-wrapped by a metal cast article wherein, according to the invention, the member to be cast-wrapped is provided with an irregular upset surface that, as a result of the extrusion operation employed in forming the member, creates on the surface of such member (such as the sleeve 19 shown in Fig. 10 of the application) an irregular upset surface (shown as the "rugged line 20") defining projections 20a which project from the member surface.

As claimed, the projections 20a which extend from the surface of the member to be cast-wrapped are irregularly configured in order to provide an uneven surface defined by projections provided on the member to be cast-wrapped whereby, when the member is surrounded by molten metal during the cast wrapping operation, the projections are sufficiently heated by the heat of the molten metal to be metallurgically combined and weldedly bonded to the cast-wrapping material. It is contemplated that the projections provided on the surface of the cast-wrapped member will be formed by an extrusion operation wherein the material of the member to be cast-wrapped is upset to create the projections. It is further contemplated that the resultant projections will be particularly configured to have tip portions which are wider than the base portions thereof (claim 1). The tip end portions of the projections have a tapering sharp edge (claim 2). The members to be cast-wrapped have a surface containing smooth grooves between which the projection-defining upsets are formed (claim 3). The projections near the starting ends of the rows of extrusions are wide and high while those near the completing end are narrow and low (claim 4). The cast-wrapped member is provided as a hollow cylindrical body (claim 5). The upset projections being arranged axially of the cylindrical member in rows spaced circumferentially about the surface of the member (claim 14). The tip ends of the projections are bent laterally (claim 15). Grooves are provided between adjacent rows of projection-defining upsets (claim 16). The projection-defining upsets are disposed at regular intervals in the respective rows (claim 17) or may be disposed at irregular intervals in the rows (claim 18). The cast-wrapped member is a hollow member (claim 19).

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The claims, as amended, are submitted as distinguishing over the references upon which the respective prior art rejections are based. The **Hiraoka, et al.** patent shows regularly formed dove-tail shaped projections of various configurations 3A, 3B, 3C, 3E and 3F that separately formed and thereafter installed on a surface to receive them. The **Toyo Kogyo** reference shows various forms of projections none of which having an irregular configuration as required by the claims and which are formed by means of rolling operations.

Similarly, the projection forms shown in the patents to **Kaku, et al.**, **Olsson, et al.** and **Soell, et al.** show projections that all have a regular shape as contrasted with the irregularly-shaped projections of the claimed invention. Moreover, it should be noted that the position taken in the Office Action as regards the teaching of **Soell, et al.** is not well taken as regards the claimed invention because the material projections described therein, contrary to the claimed projections, are simply projections in the form of points resulting from roughening the material (col. 4, lines 1 to 4).

The claims, as amended, further address the rejections under 35 U.S.C. §112, second paragraph, whereby it is submitted that the amended claims define the invention with the definiteness required by the statute. Moreover, the specification has also been amended and presented as the Substitute Specification in order to cure obvious language defects resulting from translation of the original application from Japanese to English.

For the foregoing reasons it is submitted that the claims, as amended, hereby all clearly define Applicants' invention and patentably distinguish over the respective references. The claims are therefore submitted as being allowable whereby a favorable consideration of the Amendment and allowance of the application is respectfully requested.

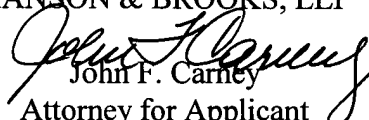
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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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